



## DESCRIPTION:

Circular and Rectangular self-powered volume flow controllers for the control of supply air or extract air in constant air volume systems

## CONSTRUCTION:

Standard Material Galvanized Sheet Steel. Optional: .304-316 Stainless Steel, Aluminum

## APPLICATION:

- Circular CONSTANTFLOW CAV controllers of Type 153-253 for the precise supply air or extract air flow control in constant air volume systems
- Mechanical self-powered volume flow control without external power supply
- Simplified project handling with orders based on nominal size
- Volume flow rate setpoint can be set on external scale
- Switching between  $V_{min}$  and  $V_{max}$  using optional actuator

## ACCESSORIES:

### DUCT TYPE ELECTRO- HEATER



### SOUND ATTENUATOR

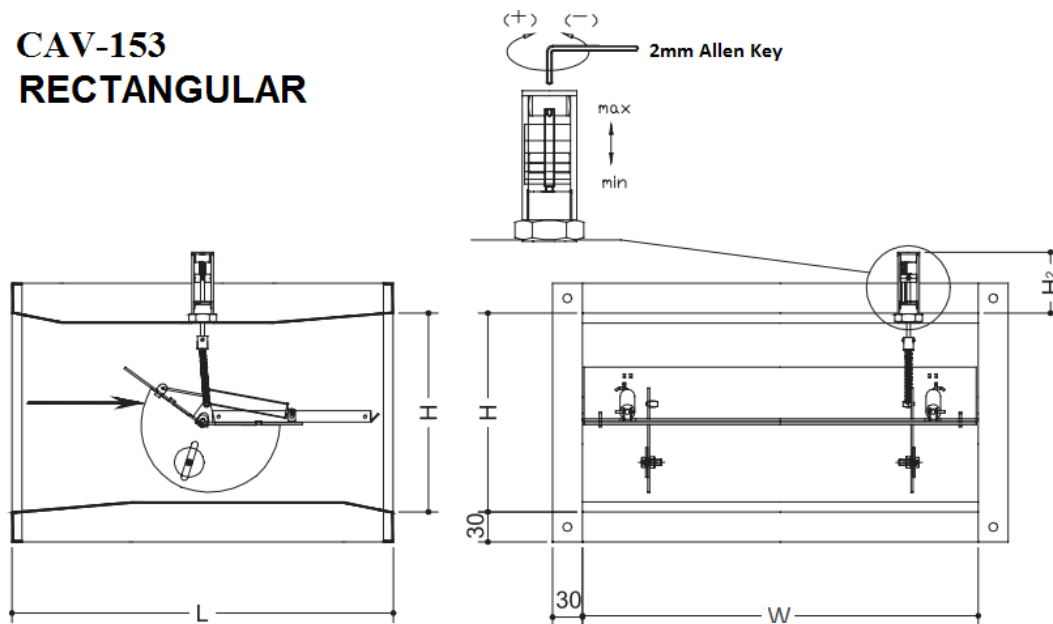


- Can be manufactured as insulated.



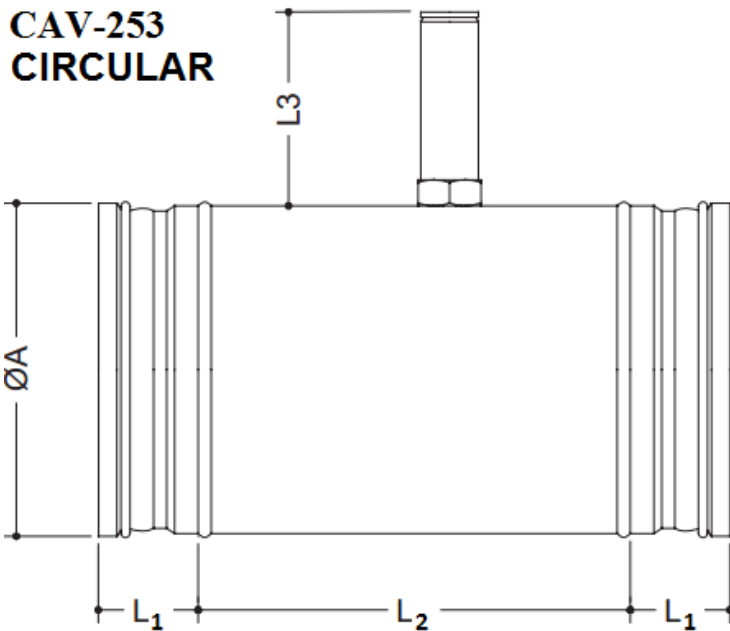
## STANDARD DIMENSIONS:

### CAV-153 RECTANGULAR



Length L [mm]	W [mm]										
	150	200	250	300	350	400	450	500	550	600	
H [mm]	100	220	220	220	-	-	-	-	-	-	-
	150	220	220	220	220	220	220	-	-	-	-
	200	220	220	220	220	220	220	385	385	385	385
	250	-	-	385	385	385	385	385	385	385	385
	300	-	-	-	385	385	385	385	385	385	385
	400	-	-	-	-	-	385	-	385	-	385
	500	-	-	-	-	-	-	-	425	-	425
	600	-	-	-	-	-	-	-	-	-	470

Sensor Height H <sub>2</sub> [mm]	W [mm]										
	150	200	250	300	350	400	450	500	550	600	
H [mm]	100	-	70	-	70	-	70	-	-	-	-
	150	70	70	70	70	70	70	-	-	-	-
	200	70	70	70	70	70	70	60	60	60	60
	250	-	-	60	60	60	60	60	60	60	60
	300	-	-	-	60	60	60	60	60	60	60
	400	-	-	-	-	-	60	-	60	-	60
	500	-	-	-	-	-	-	-	60	-	60
	600	-	-	-	-	-	-	-	-	-	60

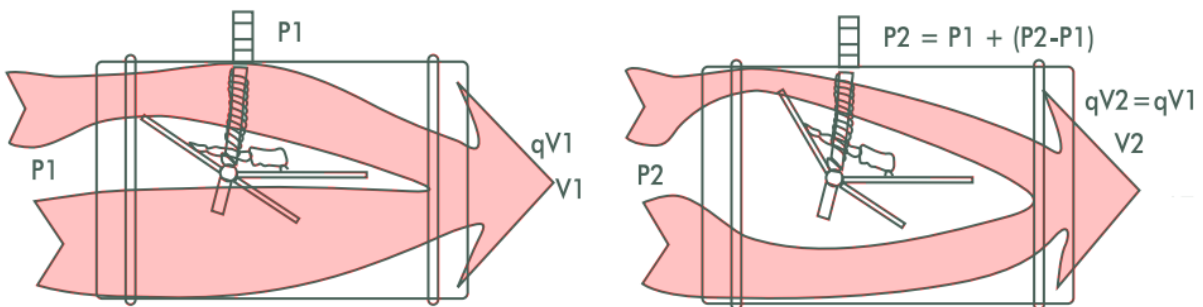


CAV-253 AVAILABLE SIZES (mm)							
NECK DIAMETER Ø							
80	100	125	160	200	250	315	400
X	X	X	X	X	X	X	X

CAV-253 STANDARD SELECTION TABLE

ØN [mm]	80	100	125	160	200	250	315	400
ØA [mm]	78	98	123	158	198	248	313	398
L1 [mm]	40	40	40	40	40	40	60	60
L2 [mm]	120	170	170	240	240	240	220	295
L3 [mm]	70	70	70	70	70	70	100	100

**WORKING PRINCIPLE**





## CAV-153 QUICK SELECTION TABLE

Nominal sizes	200 × 100 – 600 × 600 mm
Volume flow rate range	39 – 3500 l/s or 140 – 12600 m <sup>3</sup> /h
Volume flow rate control range	Approx. 25 to 100 % of the nominal volume flow rate
Scale accuracy	± 4 %
Minimum differential pressure	50 Pa
Maximum differential pressure	1000 Pa
Operating temperature	10 to 50 °C

Sound pressure level at differential pressure 150 Pa

NS	qv [l/s]	qv [m <sup>3</sup> /h]	Air-regenerated noise [dB(A)]	
			①	②
200 x 100	39	140	40	23
	68	246	44	29
	104	376	47	34
	164	590	50	38
300 x 100	65	234	41	26
	137	492	47	35
	199	716	48	38
	260	936	49	40
300 x 150	82	295	43	26
	152	547	47	32
	294	1059	49	36
	460	1656	50	38
300 x 200	120	432	44	29
	197	710	47	33
	349	1257	49	37
	515	1854	51	39
400 x 200	200	720	45	30
	337	1213	47	33
	585	2106	50	37
	875	3150	53	40
500 x 200	180	648	47	29
	271	977	48	30
	554	1995	49	33
	900	3240	50	36

# CAV- CONSTANT AIR VOLUME CONTROL DAMPER



NS	qv [l/s]	qv [m³/h]	Air-regenerated noise [dB(A)]	
			①	②
400 x 300	310	1116	44	29
	553	1992	47	33
	902	3249	50	36
	1280	4608	52	39
500 x 300	365	1314	47	30
	535	1928	48	31
	998	3593	48	33
	1580	5688	49	35
600 x 300	350	1260	47	29
	669	2409	47	30
	1137	4094	47	32
	1750	6300	47	34
400 x 400	400	1440	45	29
	674	2425	47	33
	1170	4212	50	37
	1750	6300	53	40
500 x 400	360	1296	47	28
	715	2574	48	31
	1330	4787	49	34
	1800	6480	50	36
600 x 400	450	1620	48	28
	958	3448	48	30
	1595	5741	48	32
	2020	7272	49	33
500 x 500	470	1692	47	28
	1143	4113	47	31
	1882	6776	47	33
	2380	8568	47	34
600 x 500	600	2160	47	29
	1246	4487	47	31
	2084	7503	47	32
	2620	9432	47	34
600 x 600	700	2520	47	29
	1948	7014	47	31
	2921	10517	47	33
	3500	12600	47	34



**CAV-253 QUICK SELECTION TABLE**

Nominal sizes	80 – 400 mm
Volume flow rate range	11 – 1400 l/s or 40 – 5040 m <sup>3</sup> /h
Volume flow rate control range	Approx. 25 to 100 % of the nominal volume flow rate
Scale accuracy	± 4 %
Minimum differential pressure	50 Pa (nominal size 80: 100 Pa)
Maximum differential pressure	1000 Pa
Operating temperature	10 – 50 °C

Sound pressure level at differential pressure 150 Pa

Nominal size	V̇ l/s	V̇ m <sup>3</sup> /h	Air-regenerated noise			
			①	②	③	④
			L <sub>PA</sub>	L <sub>PA1</sub>		
dB(A)						
80	11	40	37	24	17	15
	20	72	39	27	19	17
	40	144	47	34	24	22
	45	162	48	35	25	24
100	22	79	37	24	17	15
	40	144	40	29	22	20
	70	252	47	35	27	26
	90	324	50	38	30	29
125	35	126	37	27	21	18
	60	216	43	34	27	25
	115	414	50	41	35	33
	140	504	52	44	39	37
160	60	216	40	32	26	24
	105	378	45	37	32	29
	190	684	49	41	35	33
	240	864	50	41	36	34
200	90	324	40	31	24	22
	160	576	43	35	28	26
	300	1080	48	40	33	32
	360	1296	49	41	35	33
250	145	522	41	32	24	22
	255	918	42	34	28	26
	470	1692	46	39	33	31
	580	2088	48	41	35	34
315	230	828	39	33	26	23
	400	1440	42	35	29	27
	750	2700	44	38	32	31
	920	3312	46	41	35	34
400	350	1260	46	39	33	29
	610	2196	48	42	36	32
	1130	4068	50	44	38	35
	1400	5040	51	45	40	37

1- CAV , 2- CAV with silencer, lenght 500mm , 3- CAV with silencer, lenght 1000mm , 4- CAV with silencer, lenght 1500mm

**Example**

Data:

V<sub>max</sub>: 290 l/s ( 1044 m<sup>3</sup>/h) - ΔP:150Pa Required sound pressure level in the room 35 dB(A)

Selection:

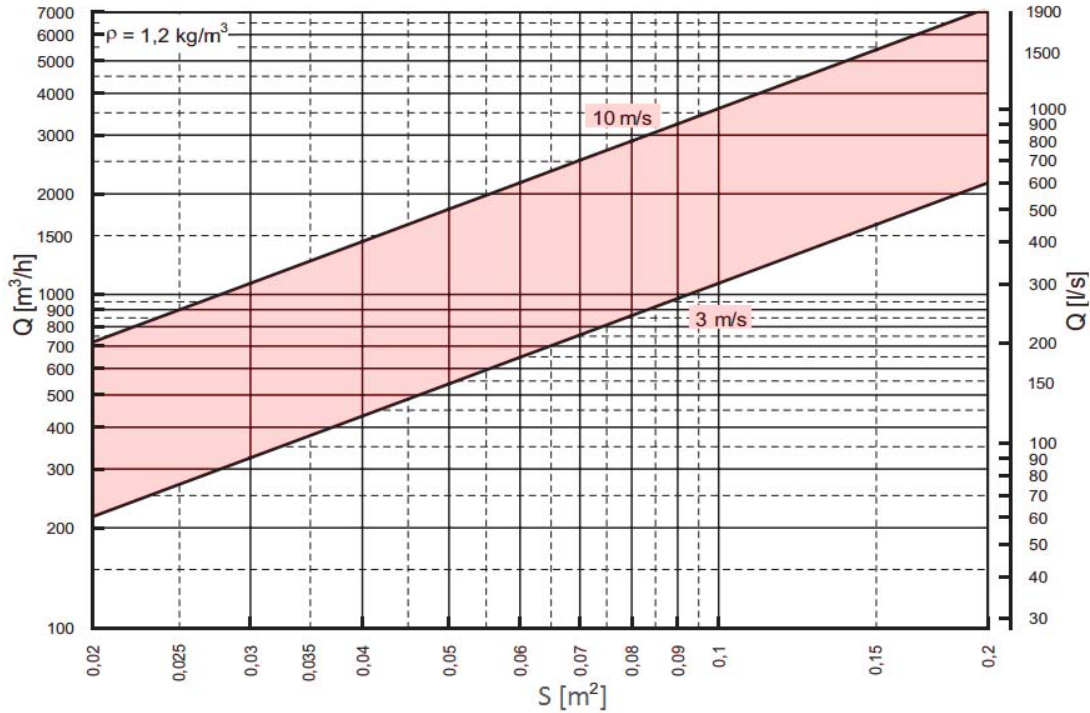
CAV/200 with circular silencer 200×1000mm

Air-regenerated noise LPA = 33 dB(A)

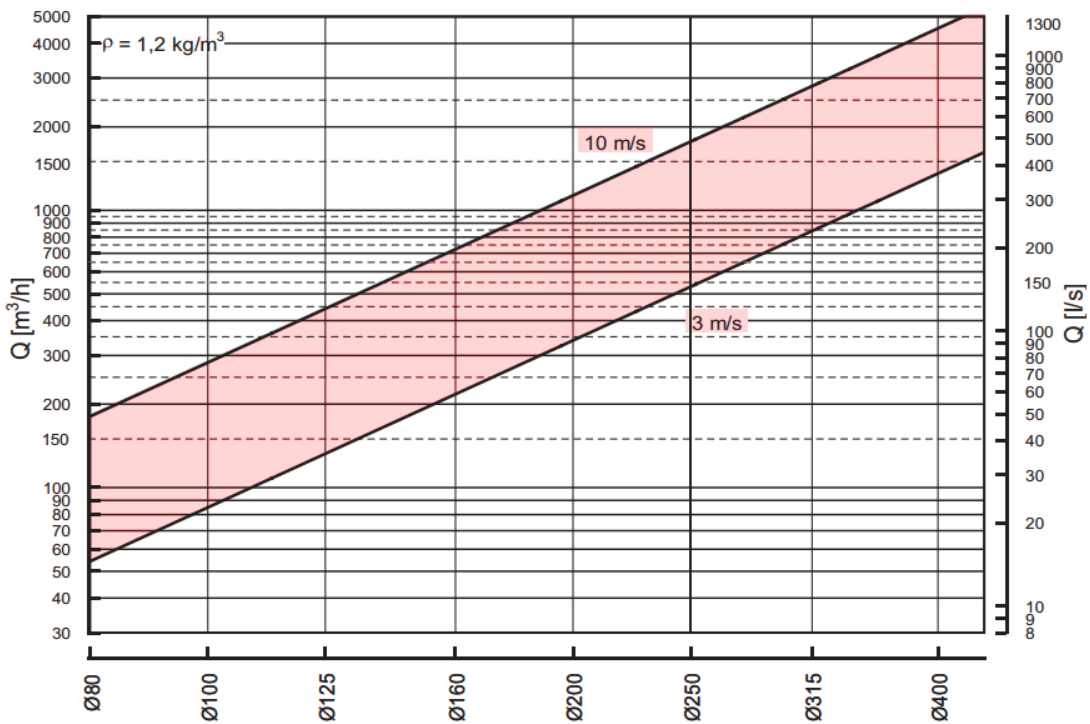


PERFORMANCE DATA

CAV-153 FLOW RATE CALIBRATION TABLE

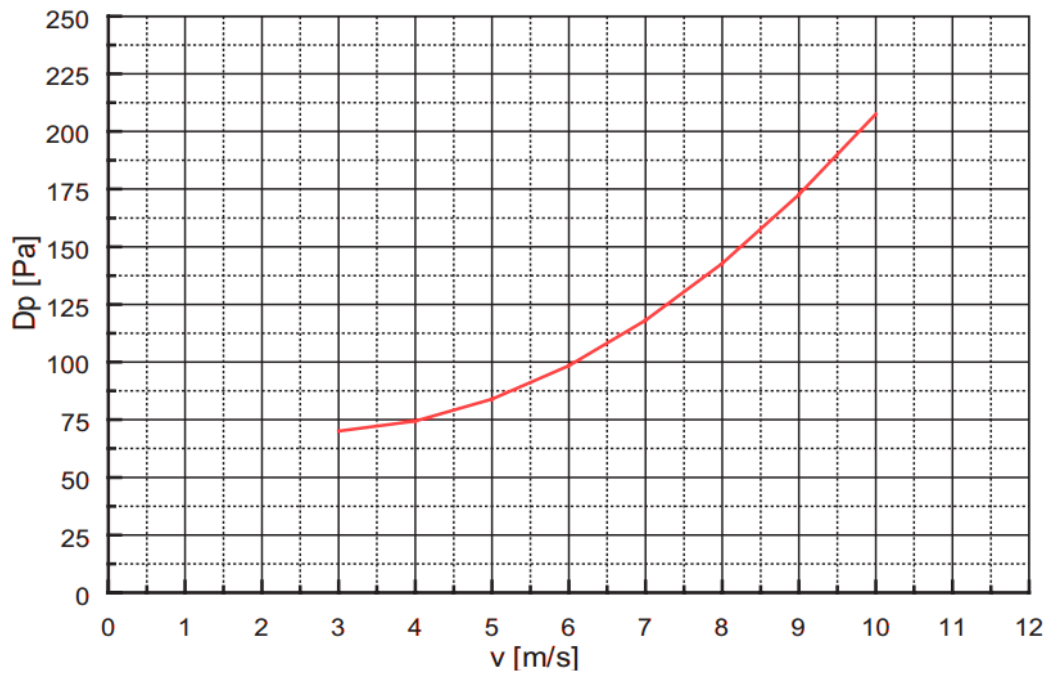


CAV-253 FLOW RATE CALIBRATION DIAGRAM

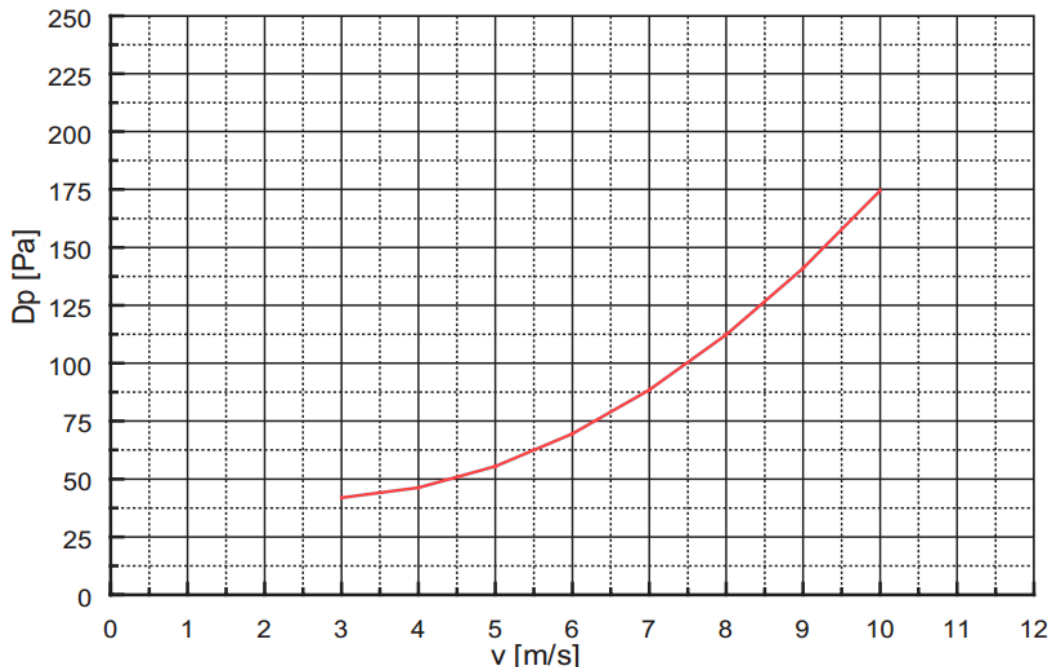




### CAV-153 PRESSURE LOSS DIAGRAM



### CAV-253 PRESSURE LOSS DIAGRAM



$Q$  (m<sup>3</sup>/h oppure l/s) : Air flow rate  
 $v$  (m/s) : Effective jet velocity of the air  
 $S$  (m<sup>2</sup>) : Effective area  
 $D_p$  (Pa) : Pressure Loss  
 $\varnothing$  (mm) : CAV diameters



# CAV- CONSTANT AIR VOLUME CONTROL DAMPER



## ORDER CODE

<b>CAV-153</b>	<b>G</b>	<b>03</b>	<b>L1000</b>	<b>-</b>	<b>N 500</b>
<b>CAV-153: Prismatic</b> <b>CAV-253: Circular</b>				<b>N: Neck Size (mm)</b>	
<b>G: Galvanised Steel Sheet</b> <b>P: Stainless Steel</b> <b>A: Aluminum</b>				<b>Standard Manual-Operated</b>	
<b>00: No Insulation</b> <b>01: Heat Insulation</b> <b>02: Sound Insulation</b> <b>03: Heat + Sound Insulation</b>				<b>L: Requested Product Length</b>	